

# FACTORS AFFECTING THE APPLICATION OF DIGITAL TRANSFORMATION IN ACCOUNTING AT ENTERPRISES

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**Abstract:** *Digital transformation (DT) has substantially changed enterprises' decision-making processes and information management. However, Vietnamese enterprises in general, especially small and medium enterprises, still do not have a correct understanding of the role of DT and the application of DT in all aspects of enterprise operations. So, what is the cause of this situation? This issue has attracted the research attention of scholars; however, the influencing factors have not been consistent among studies, and there have not been many empirical studies in enterprises. In addition, the issue of how the quality of accounting information provided will change when enterprises apply digital transformation in accounting has not been mentioned by many authors. Therefore, this article synthesizes related studies, thereby building a research model to predict the factors affecting the application of digital transformation in accounting at enterprises and its impact on the quality of accounting information provided as a basis for conducting quantitative research in the future.*

• Keywords: system, information system, accounting information system, quality of accounting information system.

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## 1. Introduction of the research problem

The 4.0 industrial revolution poses enormous challenges for businesses in innovating and changing business models. Digital technology transformation has dramatically changed the decision-making process and business information management. The Prime Minister signed Decision No. 749/QĐ-TTg dated June 3, 2020, approving the National Digital Transformation Program to 2025, with a vision to 2030, striving for Vietnam to become a digital nation. Digital Nation Digitalization for businesses plays a vital role. With the Government's policy and the challenges posed, Vietnamese companies need to create momentum for their development, with the core being the digitalization of companies in all aspects, including the application of digital transformation in accounting.

In Vietnam, digital transformation has occurred in most enterprises at many levels, especially in education, finance, transportation, and tourism. However, Vietnamese enterprises in general, especially small and medium enterprises, have not yet adequately recognized the role of digital transformation in the Industrial Revolution 4.0. Specifically, according to the Vietnam Federation of Commerce and Industry (VCCI), currently, small and medium enterprises in Vietnam account for about 97% of the total number of enterprises, and the level of science, technology, and innovation is still low, 80% to 90% of machinery used

in Vietnamese enterprises is imported, nearly 80% is old technology from the 1980s - 1990s. Therefore, innovation is a matter of survival for these enterprises (Le, C. T., 2022).

Digital transformation in general and digital transformation in accounting have been and are being studied by domestic and foreign scholars. Lombardi, R., & Secundo, G. (2020) conducted a systematic literature review through 163 published works on Scopus on the relationship between innovative and digital technology as well as the reporting process of organizations. In accounting, Aguiar, G., and Gouveia, L. (2020) conducted a comprehensive study with 88 articles collected from Scopus and Web of Science data from 1974 to 2019, with 2019 being the year with the highest number of studies. The most extensive study on Digital Transformation in Accounting is that of Feghali, K., et al. (2022), who examined the impact of the level of digitalization and changes caused by COVID-19 on accountants' behavior. A survey was collected from 568 accountants working in private companies, and the study found that the level of digitalization positively impacts accountants' behavior. Tiron-Tudor, A. et al. (2022) examined how emerging technologies such as blockchain, cloud computing, and Big Data affect the digital transformation of accounting firms. Recently, Hung, et al. (2023) conducted the study "Factors Affecting Digital Transformation in Accounting: The

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Case of Vietnamese Enterprises” to measure the factors affecting digital transformation in the accounting field in Vietnamese enterprises. In Vietnam, research on digital transformation in enterprises has also attracted the attention of many scholars, especially after the Covid-19 pandemic. Regarding digital transformation in accounting, Pham, T. H. (2023) pointed out the difficulties and challenges. Hoang, K. O. (2023) pointed out the current situation and proposed solutions for digital transformation in the accounting field of Vietnamese enterprises and issues related to legal corridors, technology infrastructure, business awareness, IT skills of accountants, and security.

Although there have been studies on factors affecting the application of digital transformation in accounting at enterprises, the findings show no consensus on the influencing factors, perhaps due to different contexts, scopes, and research subjects. Therefore, this study will synthesize domestic and foreign studies related to the research problem and propose a tentative research model on factors affecting the application of digital transformation in accounting at enterprises.

In addition to the summary and introduction of the research problem, the article is structured into three parts: Research overview, research methods, research results, conclusions, and references.

## 2. Literature review

In the world, the issues of digital transformation, digital transformation application, the impact of digital transformation, and factors affecting the application of digital transformation in accounting in enterprises have also been studied by scientists. Lombardi, R., & Secundo, G. (2020) conducted a systematic literature review (SLR) on the relationship between innovative and digital technology as well as the reporting process of organizations. The authors analyzed studies in the past two decades to answer the research questions. The Scopus database was used as the primary source of access to the articles. After reading the abstracts of 163 relevant works, the authors selected 43 priority publications for analysis and classification to obtain significant results. The study highlights the following emerging research streams on digital transformation in corporate reporting: digital technologies for decision-making and corporate information management; digital technologies as a tool for stakeholder engagement and sustainability reporting practices; and finally, digital technologies as a way to address earnings management, corporate social responsibility, accountability, and transparency.

More specifically, Rachinger, M., et al. (2019) studied digitalization and its impact on business model innovation in two industries, specifically communications and automotive. Qualitative empirical data were collected from 12 key informants working in these two industries. An investigation examined the differences and similarities between how digitalization affects the creation, proposition, and capture of corporate value and how companies deal with the challenges posed by increasing digitalization. The study's findings suggest that, although digitalization is often considered necessary, the value proposition and the value network's position will determine the options available for business model innovation (BMI) through digitalization. Furthermore, organizational capabilities and employee capabilities were identified as future challenges that both industries will face. The findings of this study revealed that representatives of the communications and automotive sectors are aware of both the pressures and opportunities of digitalization in business model innovation; however, its application and exploitation remain challenging. This study contributes to the existing knowledge base by providing empirical insights about digitalization and business model innovation.

Tiron-Tudor, A., et al. (2022) conducted a qualitative study and thematic analysis of academic literature to explore the combined impact of the most disruptive emerging technologies on accounting firms.

In China, Xin, Z. et al. (2022), in the study “Research on Successful Factors and Influencing Mechanism of the Digital Transformation in SMEs,” this study identified six key factors from three aspects of technology, organization, and environment, and based on the resource-based view and resource dependence theory to build an action mechanism model. Structural equation modeling was used to analyze data collected from 180 SMEs in China. The results showed that technological and environmental factors positively impact organizational capabilities, thereby promoting the success of digital transformation in SMEs. Organizational capability plays a mediating role in the influence of technological and environmental factors on digital transformation. In addition, employee skills positively moderate the relationship between organizational capability and digital transformation success. This study contributes to the conceptual framework and managerial implications of digital transformation. This study also provides practitioners with insights into enterprise digital transformation. It suggests that enterprises attach importance to

enhancing organizational capability and use strategy and talent as essential resources to promote the success of enterprise digital transformation.

Recently, Hung, et al. (2023) conducted a study called “Factors Affecting Digital Transformation in Accounting: The Case of Vietnamese Enterprises” to measure the factors affecting digital transformation in the accounting field at Vietnamese enterprises. The quantitative research results showed that six factors affect the application of digital transformation in the accounting work of Vietnamese enterprises, with the correlation level arranged in descending order, including technology infrastructure (0.492), strategic goals of the enterprise (0.427), and policies of business leaders. (0.413), employee technology usage (0.405), corporate culture (0.396), and corporate pressure to implement digital transformation (0.269). This result can be a valuable reference for promoting digital transformation in business operations in general and the accounting sector.

In 2023, Le, V. H., & Dang, Q. H. conducted a study, “The Factors Affecting Digital Transformation in Vietnam Logistics Enterprises,” to analyze the factors affecting digital transformation and the current situation in Vietnamese logistics enterprises. The qualitative (through expert interviews) and quantitative research results showed that five factors, including managers, digital transformation human resources, information technology, investment costs, and digital transformation support services, affect digital transformation activities in logistics enterprises. The research team then proposed solutions to promote this activity in Vietnamese logistics enterprises, contributing to the government’s implementation of crucial digital transformation tasks.

In Vietnam, there have been many studies on digital transformation and the impact of digital transformation in the field of accounting and auditing in recent years. Dang, V. T. (2018), in the study “Innovation of accounting processes in the digital age,” pointed out 7 impacts of the 4.0 industrial revolution on the accounting field. In addition, Nguyen V.T. (2018) also proposed requirements and some tasks to meet the requirements of regional and international financial and accounting integration.

Duong, T. T. H. (2021), with the research “Application of artificial intelligence in accounting and auditing - a new direction in the 4.0 industrial Revolution,” has summarized the theoretical basis of the origin, concepts of artificial intelligence, the application of artificial intelligence in accounting and

auditing at companies around the world. From there, businesses see the importance of applying artificial intelligence in accounting and auditing.

Recently, Pham, T. H. (2023), with the research “Digital transformation in the field of accounting - auditing,” discussed the current status of digital transformation in the field of accounting - auditing in the context of the impact of digital technology in general and the 4th Industrial Revolution in particular, thereby proposing several solutions to promote digital transformation in the field of accounting - auditing in Vietnam in the coming time. Many accounting and auditing enterprises have promoted applying information technology (IT) in professional activities. Many digital technology applications have been applied by many enterprises in the field of accounting - auditing, such as electronic invoice software, electronic accounting software, electronic sales software, electronic office software, etc. In addition, enterprises have invested in technology and training human resources to serve professional activities and service provision best. According to the author’s assessment, the digital transformation process in the field of accounting and auditing faces many difficulties and challenges, such as Inadequate IT infrastructure, Shortage of high-quality financial and accounting personnel, Concerns about data security, Incompatibility between old-fashioned thinking and corporate culture with digital technology innovation. From there, the author recommended management agencies, enterprises, and universities.

In addition, several studies have been conducted on factors affecting the application of digital transformation in business management in general and the application of digital transformation in accounting in particular. Specifically, Chu, B. Q. (2021) conducted “Research to explore factors affecting the successful digital transformation of enterprises in Vietnam.” The study identified seven factors affecting the successful digital transformation of enterprises in Vietnam, ranked in decreasing order of influence: (i) Government policies and support; (ii) Enterprise information security and confidentiality; (iii) Digitalization process; (iv) Enterprise digital transformation strategy; Factors (v) Human resources of the enterprise; (vi) Organizational structure and business processes of the enterprise; and (vii) Online customer support services have equally low impact on the success of digital transformation of the enterprise. Next, Nguyen Hoang Nam (2021) conducted quantitative research, processing survey data on 200 employees and managers working in accounting and



auditing to identify factors affecting the application of technology in the field of accounting and auditing in Vietnam. The research results showed that there was a positive relationship between the Favorable Conditions factor and Technology Application Behavior in the field of accounting and auditing in Vietnam, which is consistent with the research results of Venkatesh et al. (2003) and Ebrahim (2016). And the Effort Expectancy factor also has an impact on the application of technology in the field of accounting and auditing in Vietnam - this is different from the research results of Ebrahim (2016). The Effort Expectancy factor is "the ease of using the tool." Facilitating conditions are defined as the extent to which an individual believes that the technical and organizational infrastructure exists to support the use of the system (Venkatesh et al., 2003). In addition, the two hypotheses, "Performance Expectancy and Social Influence have a positive impact on Technology Application in the field of accounting and auditing in Vietnam," are not accepted, which is contrary to the research results of Venkatesh et al. (2003). Performance Expectancy refers to the extent to which an individual believes that using this tool can help achieve work efficiency; Social Influence is understood as the extent to which an individual perceives that essential others believe that they should use the new tool (Venkatesh et al., 2003).

In summary, through an overview of domestic and foreign research related to the research topic, we see that the digital transformation issue has attracted scientists' attention. The studies mainly evaluate and analyze the impact of digital transformation and the application of digital transformation in the management and operation of enterprises' business activities. In addition, several domestic and foreign studies seek and discover factors affecting the application of digital transformation in enterprises (such as managers, digital transformation human resources, information technology, investment costs, and digital transformation support services, etc.) the application of digital transformation in accounting in some types of enterprises (technology infrastructure, strategic goals of enterprises, policies of business leaders, employees' ability to use technology, corporate culture, pressure on enterprises to implement digital transformation, etc.). However, the influencing factors are not yet consistent among studies, and there are few empirical studies on Vietnamese travel businesses. This is the research gap that needs to be filled.

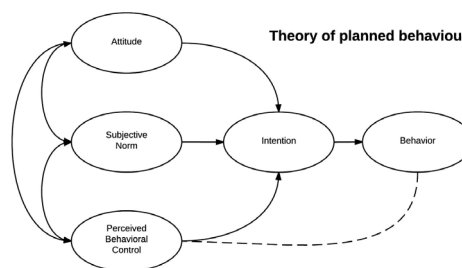
### 3. Background theory

The Theory of Planned Behavior (TPB) was developed by Ajzen from the Theory of Reasoned Action (TRA) in 1991, assuming that a behavior can be predicted or explained by behavioral tendencies to perform that behavior. Behavioral tendencies include motivational factors that influence behavior and are defined as the effort people exert to perform that behavior (Ajzen, 1991).

In the TPB model (Figure 1), the factors that affect an individual's "attitude" are still based on the factors given by the TRA model. However, to further explain the tendency to perform a behavior, Ajzen added a third factor to the model: "Perceived behavioral control." The cognitive behavioral control component reflects the ability to perform a specific behavior, which is the internal and external factors that prevent or facilitate the performance of the behavior, such as resources and conditions nature, economic conditions, etc. The factor "perceived behavioral control" plays a vital role in the TPB model because it has created a difference with the TRA theory of reasoned action, overcoming the limitations of this model in cases where the applicant has no control over their choices. Ajzen proposed that "perceived behavioral control" directly affects the tendency to perform the behavior. If the individual accurately perceives their level of control, behavioral control also predicts the behavior.

Therefore, we used this theory to explain the dependent factor items in the research model.

**Figure 1: The theory of intended behavior (TPB) model**



Source: Ajzen, I. and Fishbein, M. (1975)

## 4. Research methodology and model building

### 4.1. Research methodology

This study aims to overview studies on factors affecting the application of digital transformation in accounting at enterprises, thereby providing a proposed research model for conducting quantitative studies to verify these relationships in the future; therefore, qualitative research methods were used. Specifically, the process of using this method is used in 04 steps:

Step 1 - Search for relevant data sources: Search for relevant documents by searching for keywords on Google Scholar, articles in the Scopus and Web of Science categories, doctoral theses from the website of the National Library, proceedings of national and international scientific conferences,...

Step 2 - Extract data: In the results of research works obtained from data searching, we only filter quality articles, e-books, and doctoral theses closely related to the research content (references are specifically cited in the Reference List).

Step 3 - Overview of the research through the combination of research results of previous research works.

Step 4 - Propose a research model to predict factors affecting the application of digital transformation in accounting at enterprises.

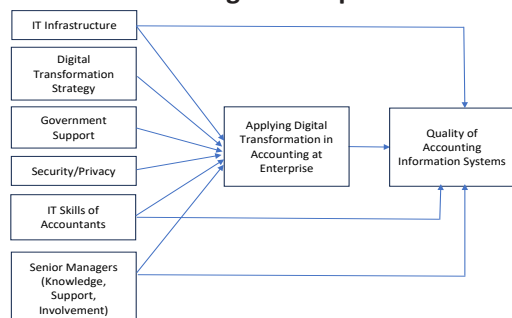
#### 4.2. Research model building

**Table 1: Summary of factors affecting the application of digital transformation in accounting at enterprises**

No.	Factors	Source
1	IT Infrastructure	Xin, Z., et al. (2022), Pham, T. H. (2023), Hoang, K. O. (2023), Hung, et al. (2023), Le, V. H., & Dang, Q. H. (2023), Nguyen, H. N. (2021).
2	Digital Transformation Strategy	Chu, B. Q. (2021), Xin, Z., et al. (2022).
3	Government Support	Chu, B. Q. (2021), Xin, Z., et al. (2022).
4	Security/Privacy	Chu, B. Q. (2021), Pham, T. H. (2023), Hoang, K. O. (2023), Hung, et al. (2023).
5	IT Skills of Accountants	Chu, B. Q. (2021), Hoang, K. O. (2023), Hung, et al. (2023), Le, V. H., & Dang, Q. H. (2023).
6	Senior Managers (Knowledge, Support, Involvement)	Xin, Z., et al. (2022), Hung, et al. (2023), Le, V. H., & Dang, Q. H. (2023), Nguyen, H. N. (2021).

Source: Compiled by the group of authors

**Figure 2: Research model predicts factors affecting the application of digital transformation in accounting at enterprises**



The overall results of studies related to the research topic show that many factors have a positive and strong influence; some have a negligible impact on the application of digital transformation in enterprises in general and the application of digital transformation in accounting at companies in particular. The studies that may explain it were conducted in different countries

and contexts. So, instead of using factors in a specific model full of factors, we combine and choose suitable factors, as shown in Table 1. Moreover, no study has been conducted to check the influence of applying DT on the quality of accounting information. On that basis, we build a research model to predict the factors affecting the application of digital transformation in accounting at enterprises and its influence on the quality of accounting information, as outlined in Figure 02.

#### 5. Conclusion and future research directions

Although the overall research shows that there are more than six factors affecting the application of digital transformation in accounting at enterprises, such as IT infrastructure, Digital transformation strategy, Government support, Security/confidentiality, IT level of accountants, and Senior managers, we only choose the above six factors because they are proven to affect the application of digital transformation in enterprises in general, and in accounting at enterprises in particular. Thus, this research has built a model to predict the factors affecting the application of digital transformation in accounting at enterprises. Still, there are no results to test the level of impact of these factors. Therefore, in the future, a quantitative study needs to be conducted to examine the level and direction of their effect on the application of digital transformation in accounting at a specific type of enterprise.

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